

CRITICAL APPRAISAL

TIMING

- 50mins to read the paper
- 40mins to write the critique
- 60mins for remaining 60% marks

1. READ THE PAPER

- Be strategic; don't read from beginning to end
- First 5mins
 - Title
 - First & last paragraph of Introduction
 - First & last paragraph of Discussion
- 45mins
 - Hunt out answers
 - Make bullet points & highlight areas of text

2a. AIM (2mins)

- What is / are the research question(s)?
- Is it clearly stated?
- Is it important? If so, why?

2. WRITE THE CRITIQUE

2b. SUBJECTS (3mins)

- Who was studied? Patients / population?
- Any inclusion / exclusion criteria?
- Were they appropriate for the study aim?

2c. METHODS (15mins)

- Is there a statement on ethical approval & consent?
- Design
 - RCT / cohort / case-control / systematic rv
 - Appropriate?
 - Strengths / weaknesses of design
 - Alternative method?
- Statistics
 - What methods did they use?
 - Strengths / weaknesses
- Exposure(s), outcome(s), covariate(s)
 - Any issues with assumptions required?
 - What did they measure?
 - Pros / cons
 - Objective / subjective?
 - Sensitive / accurate / valid / reliable?
- Execution
 - How well was design implemented?
 - Dropout rate
 - Response rate
 - RCT
 - Did randomization work?
 - Were groups balanced at baseline?
- If systematic rv
 - Publication bias?
 - Score of quality of studies?
 - Test of heterogeneity
 - Stratified meta-analysis / meta-regression?
 - Small study bias?
 - Language limitations?

2f. IMPLICATIONS (10mins)

- Are the results applicable to my population?
 - Are results generalizable?
 - Place (e.g., urban / rural)
 - Culture
 - Setting (e.g., primary / secondary care)
- Can it be scaled up?
 - Sustainability
 - How intensive was the intervention?
 - Cost
 - Resources (e.g., staff, skills, equipment, facilities)

2e. DISCUSSION (5mins)

- What's already known about this topic?
- What does this study add?
- Limitations
- Conflicts of interest

2d. RESULTS (5mins)

- State key results (max 2 results)
- Comment on size
- R-squared (if appropriate)
- Are results presented clearly?

Could results be due to...

- Confounding
 - How were they managed?
 - Matching
 - Stratification
 - Restriction
 - Adjusted regression
 - Residual confounding?
- Chance
 - p-value
 - 95% confidence interval
 - type I error
 - Bonferroni?
 - how many tests / p-values?
 - multiple comparisons?
 - type II error
 - sample size calculation
 - power
- Bias
 - Blindness
 - Were intervention & control groups handled differently?
 - Randomisation
 - Standardisation

If an intervention study

- What did they intend to do?
 - Comparator
 - Placebo
 - Usual care
 - Strengths / weaknesses
- Fidelity
 - What did they achieve?
 - Dropout rate
 - Was a protocol followed?
 - If not described, say so as a critique